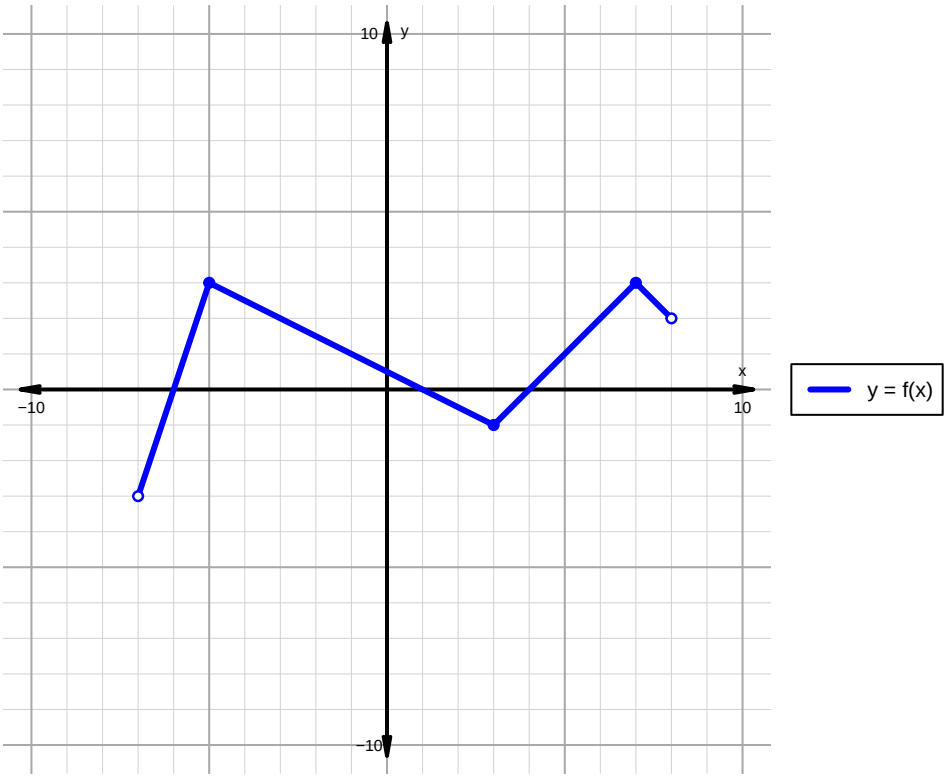
Name: Date:

Intervals, Transformations, and Slope Solution (version 58)

1. The function f is graphed below.



Indicate the following intervals using interval notation. Remember, you can use $\cup$ between two intervals to indicate the union. Except for range, all intervals will indicate x values; this is standard.

Feature	Where
Positive	$(-6, 1) \cup (4, 8)$
Negative	$(-7, -6) \cup (1, 4)$
Increasing	$(-7, -5) \cup (3, 7)$
Decreasing	$(-5, 3) \cup (7, 8)$
Domain	$(-7, 8)$
Range	$(-3, 3)$

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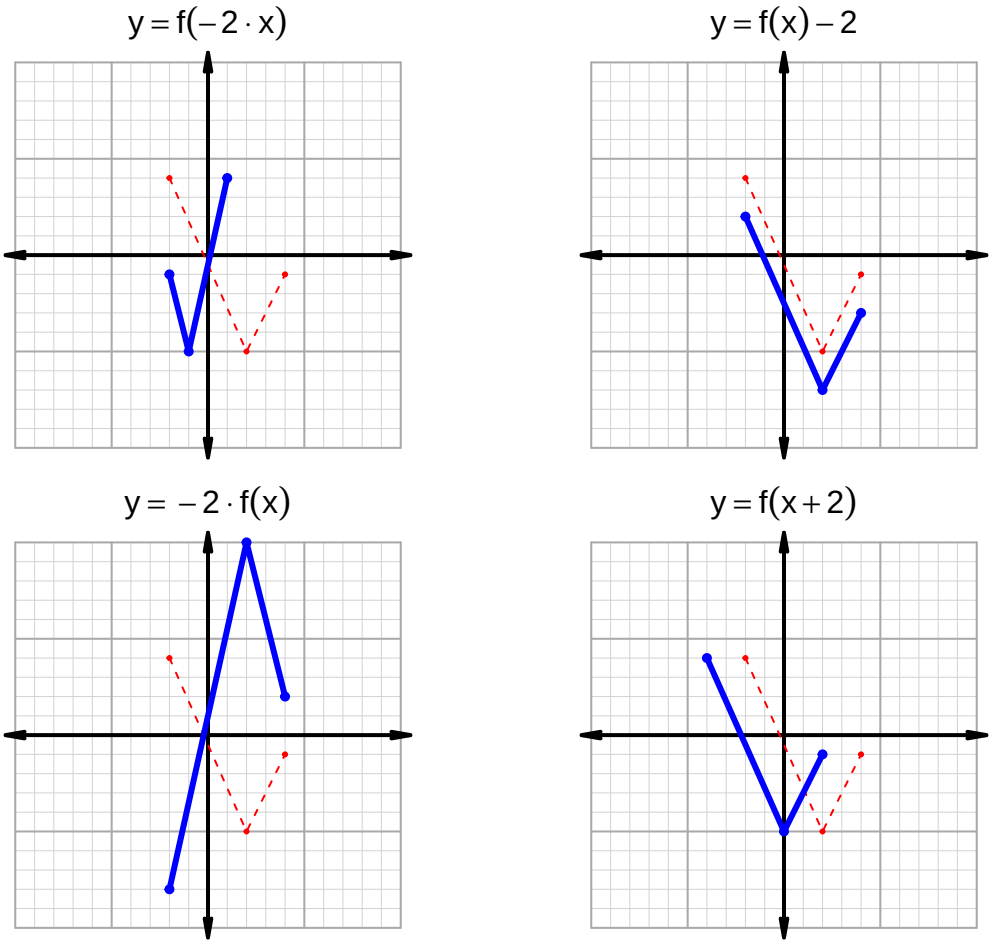
2. In the four graphs below, $y = f(x)$ is graphed as a dotted line. With a solid line, please graph the transformations indicated by the equations below.



3. Let function g be defined by the table below. Use the formula $\frac{g(x_2)-g(x_1)}{x_2-x_1}$ to find the average rate of change between $x_1 = 29$ and $x_2 = 92$. Express your answer as a reduced fraction.

x	$g(x)$
29	33
33	92
68	29
92	68

$\frac{g(92)-g(29)}{92-29} = \frac{68-33}{92-29} = \frac{35}{63}$

The greatest common factor of 35 and 63 is 7. Divide numerator and denominator by the greatest common factor.

$$\text{AROC} = \frac{5}{9}$$